

I claim:

1. A security device adapted for use with a selected bolt and nut combination in order to secure first and second objects to one another and wherein said bolt has a bolt head and a threaded shaft and wherein one of said bolt head and said nut has maximum dimension measured between diametrically opposite points and a selected thickness in order to prevent unauthorized removal of said one of said bolt and nut by a wrench having a standard socket operative to matably engage said one of said bolt head and nut wherein said standard socket has a standard sidewall thickness, comprising:

(A) a body portion having a base, an outer surface and a cylindrical first cavity formed therein with a radially extending flange defining a bolt hole that is coaxial with the first cavity and that is adapted to receive the shaft of said bolt, said first cavity having a depth at least about the selected thickness and a cylindrical cavity sidewall surface sized to allow a selected finite radial clearance between the cavity sidewall surface and the maximum dimension of said one of said bolt head and nut, said radial clearance being selected to be smaller than the standard sidewall thickness of said standard socket.

2. A security device according to claim 1 wherein said body portion has a frusto-conical outer surface extending from said base at an acute angle.

3. A security device according to claim 2 wherein the acute angle is in a range of between about 10° and 45°.

4. A security device according to claim 1 wherein said body portion is constructed of a plastic material and has a second cavity formed in the base coaxially with the bolt hole and the first cavity, and including a reinforcement element

disposed in the second cavity, said reinforcement element having an opening coaxial with the bolt hole and sized to receive the shaft of said bolt.

5. A security device according to claim 4 wherein said reinforcement element is an annular metallic washer.

6. A security device according to claim 4 wherein said reinforcement element is affixed to the body portion.

7. A security device according to claim 1 including a nut portion disposed inside of said first cavity and attached to said body portion, said nut portion having a threaded bore that is coaxial with the bolt hole and sized to threadably receive the shaft of said bolt.

8. A security device according to claim 7 wherein said nut portion is integrally formed with said body portion.

9. A security device according to claim 1 wherein said body portion is of a two-piece construction including an inner core having the first cavity and an outer retainer operative to nestably receive said inner core.

10. A security device according to claim 1 wherein said body portion is secured to a fixture that is adapted to secure the first and second objects to one another.

11. A security fastener adapted to prevent unauthorized removal thereof by a wrench having a standard socket that has a standard sidewall thickness, comprising:

(A) a nut and bolt combination wherein said bolt has a bolt head and a threaded shaft and said nut is adapted to be matably threaded on said bolt wherein one of said bolt head and said nut has maximum dimension measured between diametrically opposite points thereof and having a selected thickness; and

(B) a security device including a body portion having a base, an outer surface and a cylindrical first cavity formed therein, said first cavity having a depth at least about the selected thickness and a cylindrical cavity sidewall surface sized to allow a selected finite radial clearance between the cavity sidewall surface and the maximum dimension of said one of said bolt head and nut, said radial clearance being selected to be smaller than the standard sidewall thickness of said standard socket.

12. A security fastener according to claim 11 wherein said body portion has a frusto-conical outer surface extending from said base at an acute angle.

13. A security device according to claim 12 wherein the acute angle is in a range of between about 10° and 45°.

14. A security device according to claim 11 wherein said body portion is constructed of a plastic material and has a second cavity formed in the base coaxially with the bolt hole and the first cavity, and including a reinforcement element disposed in the second cavity, said reinforcement element having an opening coaxial with the bolt hole and sized to receive the shaft of said bolt.

15. A security device according to claim 14 wherein said reinforcement element is an annular metallic washer.

16. A security device according to claim 14 wherein said reinforcement element is affixed to the body portion.

17. A security device according to claim 11 including a nut portion disposed inside of said first cavity and attached to said body portion, said nut portion having a threaded bore that is coaxial with the bolt hole and sized to threadably receive the shaft of said bolt.

18. A security device according to claim 17 wherein said nut portion is integrally formed with said body portion.

19. A security device according to claim 11 wherein said body portion is of a two-piece construction including an inner core having the first cavity and an outer retainer operative to nestably receive said inner core.

20. A security device according to claim 11 wherein said body portion is secured to a fixture that is adapted to secure the first and second objects to one another.

21. A security fastener system adapted to prevent unauthorized removal thereof by a wrench having a standard socket that has a standard sidewall thickness, comprising:

(A) a bolt having a bolt head and a nut adapted to be matably threaded on said bolt wherein one of said bolt head and said nut has maximum dimension measured between diametrically opposite points thereof and having a selected thickness;

(B) a security device including a body portion having a base, an outer surface and a cylindrical first cavity formed therein, said first cavity having a depth at least about the selected thickness and a cylindrical cavity sidewall surface sized to allow a selected finite radial clearance between the cavity sidewall surface and the maximum dimension of said one of said bolt head and nut, said radial clearance being selected to be smaller than the standard sidewall thickness of said standard socket; and

(C) a specialty wrench tool including a socket portion with an inner socket cavity formed by a plurality of longitudinal surfaces or grooves shaped to engage said one of said bolt head and said nut and a socket sidewall surrounding the socket

cavity, said socket sidewall having with a minimum wall thickness which is sized to be equal to or less than the radial clearance between the cavity wall and the maximum dimension of said bolt head or nut.

22. A security fastener system according to claim 21 wherein said body portion has a frusto-conical outer surface extending from said base at an acute angle.

23. A fixture adapted to secure a sign to a support structure by means of a selected bolt having a bolt head and nut combination wherein one of said bolt head and said nut has maximum dimension measured between diametrically opposite points and a selected thickness in order to prevent unauthorized removal of said one of said bolt and nut by a wrench having a standard socket operative to matably engage said one of said bolt head and nut wherein said standard socket has a standard sidewall thickness, comprising:

(A) a mounting portion adapted to be secured to said support structure;

(B) a first bracket portion disposed on said mounting portion and having a bore therethrough that is adapted to secure said sign by means of said selected bolt and nut, said first bracket portion including a security structure disposed thereon, said security structure including a body portion having a cylindrical cavity formed therein that has a diameter that is greater than the bore and that is axially aligned with the bore, said cavity having a depth at least about the selected thickness and a cylindrical cavity sidewall surface sized to allow a selected finite radial clearance between the cavity sidewall surface and the maximum dimension of said one of said bolt head and nut, said radial clearance being selected to be smaller than the standard sidewall thickness of said standard socket.

24. A fixture according to claim 23 wherein said security structure is in the form of a raised body with the cavity being formed therein, said raised body having an outer peripheral surface.

25. A fixture according to claim 24 wherein the out peripheral surface is frusto-conical.

26. A fixture according to claim 23 including a nut portion disposed inside of the cavity, said nut portion having a threaded bore that is sized to threadably receive the shaft of said bolt.

27. A fixture according to claim 23 wherein said first bracket portion includes a pair of aligned security structures disposed thereon, each said security structure including a body portion having a cylindrical cavity formed therein that has a diameter that is greater than the bore and that is axially aligned with the bore, each said cavity having a depth at least about the selected thickness and a cylindrical cavity sidewall surface sized to allow a selected finite radial clearance between the cavity sidewall surface and the maximum dimension of said one of said bolt head and nut, said radial clearance being selected to be smaller than the standard sidewall thickness of said standard socket, said cavities being axially aligned.

28. A fixture according to claim 23 wherein said mounting portion is defined by a second bracket portion adapted to secure to an edge of a sign.

29. A fixture according to claim 23 wherein said mounting portion is defined by a cup-shaped mount adapted to secure to a cylindrical post.

30. A method for securing two or more items together with a selected bolt and nut combination wherein said bolt has a bolt head and a threaded shaft and wherein one of said bolt head and said nut has maximum dimension measured between diametrically opposite points and a selected thickness in order to prevent

unauthorized removal of said one of said bolt and nut by a wrench having a standard socket operative to mateably engage said one of said bolt head and nut wherein said standard socket has a standard sidewall thickness, comprising:

(A) providing a washer including a body portion that has a cavity formed therein that is adapted to receive a standard size nut or hex bolt in such a manner that there is insufficient clearance between the cavity side wall and the nut or bolt head received therein to permit engagement by a standard socket of a standard size to engage the nut or bolt head; and

(B) providing a special socket having an engagement opening sized to mateably engage the standard nut or bolt head, but with a reduced wall thickness to fit within the annular space between the cavity side wall and the nut or bolt head received therein; and

(C) securing said items together with said selected bolt and nut combination with one of said bolt head and nut is positioned in the cavity and tightened therein by means of said special socket.